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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,145	09/17/2003	Vidyadhar Babu Hegde	61,101C	5237
25212	7590	08/11/2004	EXAMINER	
DOW AGROSCIENCES LLC 9330 ZIONSVILLE RD INDIANAPOLIS, IN 46268			SHIAO, REI TSANG	
			ART UNIT	PAPER NUMBER
			1626	

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

10/664,145

### Applicant(s)

HEGDE ET AL.

### Examiner

Robert Shiao

### Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on application filed on 09/17, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 15-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                        |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>09/17/2003</u> . | 6) <input type="checkbox"/> Other: _____   |

### **DETAILED ACTION**

1. This application claims benefit of the provisional application: 60/322,236 with a filing date 09/14/2001.
2. Claims 1-21 are pending in the application.

### ***Election/Restriction***

3. The Markush group set forth in the claims includes both independent and distinct inventions, and patentably distinct compounds (or species) within each invention. However, this application discloses and claims a plurality of patentably distinct inventions far too numerous to list individually. Moreover, each of these inventions contains a plurality of patentably distinct compounds, also far too numerous to list individually. For these reasons provided below, restriction to one of the following Groups is required under 35 U.S.C. 121, wherein an Group is a set of patentably distinct inventions of a broad statutory category (e.g. Compounds, Methods of Use, Methods of Making, etc.):

- I. Claims 1-14, in part, drawn to compounds/compositions of the formula of claim 1, wherein the variables X, Y, R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup> are as defined in claim 1, the variables R<sup>4</sup> and R<sup>5</sup> taken together do not form a 5- or 6-membered ring containing 1 or 2 oxygen atoms thereof, classified in classes 514/548, numerous subclasses. If this group is elected, applicants are requested to elect a single species for the search purpose.

- II. Claims 1-14, in part, drawn to compounds/compositions of the formula of claim 1, wherein the variables X, Y, R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup> are as defined in claim 1, the variables R<sup>4</sup> and R<sup>5</sup> taken together form a 5- or 6-membered ring containing 1 or 2 oxygen atoms, classified in classes 514/548, numerous subclasses. If this group is elected, applicants are requested to elect a single species for the search purpose. This group is subject further restriction if it is elected.
- III. Claims 15-21, in part, drawn to methods of use (i.e., treating lepidoptera) of the formula of claim 15, wherein the variables X, Y, R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup> are as defined in claim 15, the variables R<sup>4</sup> and R<sup>5</sup> taken together do not form a 5- or 6-membered ring containing 1 or 2 oxygen atoms thereof, classified in classes 514, numerous subclasses. If this group is elected, applicants are requested to elect a single species for the search purpose.
- IV. Claims 15-21, in part, drawn to methods of use (i.e., treating lepidoptera) of the formula of claim 15, wherein the variables X, Y, R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup> are as defined in claim 15, the variables R<sup>4</sup> and R<sup>5</sup> taken together form a 5- or 6-membered ring containing 1 or 2 oxygen atoms, classified in classes 514, numerous subclasses. If this group is elected, applicants are requested to elect a single species for the search purpose. This group is subject further restriction if it is elected.

In accordance with the decisions in *In re Harnisch*, 631 F.2d 716, 206 USPQ 300 (CCPA 1980); and *Ex parte Hozumi*, 3 USPQ2d 1059 (Bd. Pat. App. & Int. 1984), restriction of a Markush group is proper where the compounds within the group either (1) do not share a common utility, or (2) do not share a substantial structural feature disclosed as being essential to that utility. In addition, a Markush group may encompass a plurality of independent and distinct inventions where two or more members are so unrelated and diverse that a prior art reference anticipating the claim with respect to one of the members would not render the other member(s) obvious under 35 U.S.C. 103.

**Where an election of any one of Groups I-IV is made, an election of a single compound or species is further required.** Moreover, an election of a single compound is further required including an exact definition of each substitution on the base molecule (the Formula of claim 1 or 15), wherein a single member at each substituent group or moiety is selected. For example, if a base molecule has a substituent group R<sup>1</sup>, wherein R<sup>1</sup> is recited to be any one of hydrogen, halogen, etc., then applicant must select a single substituent of R<sup>1</sup>, for example hydrogen, and each subsequent variable position. Should applicant traverse on the ground that the compounds are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the compounds to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C 103(a) of the other.

All compounds falling outside the class(es) and subclass(es) of the selected compound and any other subclass encompassed by the election above will be directed to nonelected subject matter and will be withdrawn from consideration under 35 U.S.C. 121 and 37 C.F.R. 1.142(b). Applicant may reserve the right to file divisional applications on the remaining subject matter. The provisions of 35 U.S.C. 121 apply with regard to double patenting covering divisional applications.

Applicant is reminded that upon cancellation of claims to a non-elected invention, the inventors must be amended in compliance with 37C.F.R. 1.48(b) if one of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 C.F.R. 1.48(b) and by the fee required under 37CFR 1.17(i). If desired upon election of a single compound, applicants can review the claims and disclosure to determine the scope of the invention and can **set forth** a group of compounds which are so similar within the same inventive concept and reduction to practice. Markush claims must be provided with support in the disclosure for each member of the Markush group. See MPEP 608.01(p). Applicant should exercise caution in making a selection of a single member for each substituent group on the base molecule to be consistent with the written description.

***Rationale Establishing Patentable Distinctiveness Within Each Group***

Each Invention Set listed above is directed to or involves the use or making of compounds which are recognized in the art as being distinct from one another because of their diverse chemical structure, their different chemical properties, modes of action,

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different effects and reactive conditions (MPEP 806.04, MPEP 808.01). Additionally, the level of skill in the art is not such that one invention would be obvious over either of the other inventions, i.e. they are patentable over each other. Chemical structures which are similar are presumed to function similarly, whereas chemical structures that are not similar are not presumed to function similarly. The presumption even for similar chemical structures though is not irrebuttable, but may be overcome by scientific reasoning or evidence showing that the structure of the prior art would not have been expected to function as the structure of the claimed invention. Note that in accordance with the holdings of Application of Papesch, 50 CCPA 1084, 315 F.2d 381, 137 USPQ 43 (CCPA 1963) and In re Lahu, 223 USPQ 1257 (Fed. Cir. 1984), chemical structures are patentably distinct where the structures are either not structurally similar, or the prior art fails to suggest a function of a claimed compound would have been expected from a similar structure.

***The above Groups represent general areas wherein the inventions are independent and distinct, each from the other because of the following reasons:***

Each of Groups I-II are distinct and independent products, one from the other on the basis of structure defined in the claimed compounds as directed to various compound of formula (I) of claim 1 having various heteroaryl or heterocycle (i.e., thiazole, thiadiazole, imidazole, pyridyl, oxazole, pyrimidine, etc), and they differ in elements, bonding arrangement and chemical property to such an extent that a reference anticipating compounds of any one group would not render another group obvious. Absent factual evidence to the contrary, each is a different chemical compound.

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Group I-II and III-IV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the process for using the product as claimed in Group III can be practiced with another materially different product, such as 3,5-diphenyl-1H-1, 2,4-triazole derivative, see page 1 lines 21-22 of specification and US 5,482,951 cited in the specification.

In addition, because of the plethora of classes and subclasses in each of the Groups, a serious burden is imposed on the examiner to perform a complete search of the defined areas. Therefore, because of the reasons given above, the restriction set forth is proper and not to restrict would impose a serious burden in the examination of this application.

#### ***Advisory of Rejoinder***

4. The following is a recitation of M.P.E.P. §821.04, Rejoinder:

Where product and process claims drawn to independent and distinct inventions are presented in the same application, applicant may be called upon under 35 U.S.C. 121 to elect claims to either the product or process. See MPEP § 806.05(f) and § 806.05(h). The claims to the nonelected invention will be withdrawn from further consideration under 37 CFR 1.142. See MPEP § 809.02 (c) and § 821 through § 821.03. However, if applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims which depend from or otherwise include all the limitations of the allowable product claim will be rejoined.

Where product and process claims are presented in a single application and that application qualifies under the transitional restriction practice pursuant to 37 CFR 1.129(b), applicant may either (1) elect the invention to be searched and examined and pay the fee set forth in 37 CFR 1.17(s) and have the additional inventions searched and examined under 37 CFR 1.129(b)(2), or (2) elect the invention to be searched and examined and not pay the additional fee (37 CFR 1.129(b)(3)). Where no additional fee is paid, if the elected invention is directed to the product and the claims directed to the product are subsequently found patentable, process claims which either depend from or include all the limitations of the allowable product will be rejoined . If

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applicant chooses to pay the fees to have the additional inventions searched and examined pursuant to 37 CFR 1.129(b)(2), even if the product is found allowable, applicant would not be entitled to a refund of the fees paid under 37 CFR 1.129(b) by arguing that the process claims could have been rejoined. 37 CFR 1.26 states that "money paid by actual mistake or in excess will be refunded, but a mere change of purpose after the payment of money...will not entitle a party to demand such a return..." The fees paid under 37 CFR 1.129(b) were not paid by actual mistake nor paid in excess, therefore, applicant would not be entitled to a refund.

In the event of rejoinder, the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104 - 1.106. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. If the application containing the rejoined claims is not in condition for allowance, the subsequent Office action may be made final, or, if the application was already under final rejection, the next Office action may be an advisory action.

The following is a recitation from paragraph five, "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai*, *In re Brouwer* and 35 U.S.C. §103(b)" (1184 TMOG 86(March 26, 1996)):

"However, in the case of an elected product claim, rejoinder will be permitted when a product claim is found allowable and the withdrawn process claim **depends from or otherwise includes all the limitations of** an allowed product claim. Withdrawn process claims not commensurate in scope with an allowed product claim will not be rejoined." (emphasis added)

Therefore, in accordance with M.P.E.P. §821.04 and *In re Ochiai*, 71 F.3d 1565, 37 USPQ 1127 (Fed. Cir. 1995), rejoinder of product claims with process claims commensurate in scope with the allowed product claims will occur following a finding that the product claims are allowable. Until, such time, a restriction between product claims and process claims is deemed proper. Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution to maintain either dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.**

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5. During a telephone conversation with Craig E. Mixan on July 30, 2004, a provisional election was made without traverse to prosecute Group I of claims 1-14, in part. Affirmation of this election must be made by applicant in replying to this Office action. The non-elected subject matter of Group II claims 1-14, in part, and Group III-IV, claims 15-21, are withdrawn from further consideration by the examiner, 37 CFR 1.142(b).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pechacek et al. US 6,262,305.

Applicants claim a triazole compound/compositions of the formula in claim 1 as pesticide.

**Determination of the scope and content of the prior art (MPEP §2141.01).**

Pechacek et al. disclose a triazole compound of formula (IA), wherein  $R^1$  and  $R^{1'}$  are hydrogen, Cl, F, or methyl independently,  $R^2$  is lower alkyl;  $R^3$  is substituted phenyl, Y is S,  $R^4$  and  $R^5$  are hydrogen, lower alkyl, lower alkoxy, or halogen independently, see column 2 –3. A number of compounds have been exemplified, see columns 25-44.

**Determination of the difference between the prior art and the claims (MPEP §2141.02)**

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The difference between prior art Pechacek et al. '305 and instant claims is that the variable Y of Pechacek et al. compounds represents O or S, while instant claimed compounds represent S at the same position.

**Finding of prima facie obviousness-rational and motivation (MPEP §2142-2143)**

One having ordinary skill in the art would find the claims 1-14 prima facie obvious because one would motivate to employ the compound of Pechacek et al. to obtain instant compounds of the formula, wherein X and Y are Cl or F independently, R<sup>3</sup> is alkyl (i.e., methyl); R<sup>1</sup> and R<sup>2</sup> are hydrogen, methyl, or halogen independently; R<sup>4</sup> and R<sup>5</sup> are hydrogen, methoxyl, or halogen independently.

The motivation to make the claimed compounds derives from the expectation that the instant claimed compounds derived from known Pechacek et al. compounds and would possess similar activity (i.e., agents as pesticide) to that which is claimed in the reference.

***Double Patenting***

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA

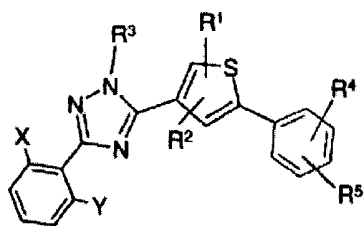
1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

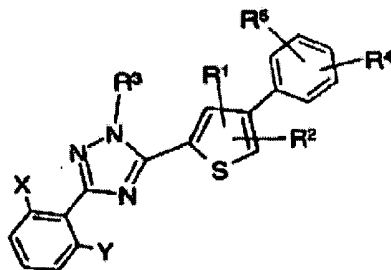
8. Claims 1-14 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of Hegde et al. US 6,770,665. Although the conflicting claims are not identical, they are not patentably distinct from each other. The reasons are given, *infra*.

Applicants claim triazole compounds/compositions of the formula in claim 1,



The instant compounds are used as pesticide. The compounds are in the pages 4-20 of instant specification.

Hegde et al. claim triazole compounds/compositions of formula (I),



Hegde et al. compounds are used as pesticide. It is noted that the formula (I) of claim 1 of Hegde et al. '665 is not correct.

The difference between the Hegde et al. compounds and instant claims is that the Hegde et al. compounds are isomers of the instant compounds. It is noted that the instant thiophene moiety is linked to the triazole moiety at the 3' position, while Hegde et al. is at the 2' position.

One having ordinary skill in the art would find the claims 1-14 *prima facie* because one would be motivated to employ the compounds of Hegde et al., i.e., the 4<sup>th</sup> compound in the Table 3 of column 75, wherein R<sup>1</sup> represents C<sub>1</sub>-C<sub>6</sub> alkyl (i.e., methyl), R<sup>2</sup> represents halogen (i.e., Cl); the variable X represents F; the variable Y represents Cl; R<sup>4</sup> represents C<sub>1</sub>-C<sub>6</sub> haloalkoxy (i.e., -OCF<sub>3</sub>); R<sup>5</sup> represents hydrogen, as the instant claimed isomer compounds with same thiophene moiety linked to the triazole moiety at the 3<sup>rd</sup> position..

Nothing unobvious is seen in substituting the known claimed isomer (i.e., the 4<sup>th</sup> compound in the Table 3 of column 75) for the structurally similar isomer, as taught by Hegde et al., since such structurally related compounds suggest one another and would

be expected to share common properties (i.e., pesticide) absent a showing of unexpected results, see *In re Norris*, 84 USPQ 458 (1950).

### ***Objection***

9. Claims 1-14 are objected to as containing non-elected subject matter, i.e., the variables R<sup>4</sup> and R<sup>5</sup> taken together form a 5- or 6-membered ring containing 1 or 2 oxygen atoms. It is suggested that applicants amend the claims to the scope of the elected subject matter as defined above in Group I, *supra*.

### ***Telephone Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Shiao whose telephone number is (571) 272-0707. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on (571) 272-0699. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

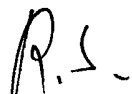
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph K. McKane  
Supervisory Patent Examiner  
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August 4, 2004